

WHAT IS CLAIMED IS:

1. A physiological tissue clipping apparatus comprising:

an clip capable of being arbitrarily  
5 opened/closed;

a tightening ring engagingly mounted on the clip,  
thereby closing the clip;

a link member capable of being inserted into the  
tightening ring and engaged with the clip;

10 an introducing tube capable of housing the clip  
and the tightening ring;

a manipulating member retractably routed into the  
introducing tube; and

engagement means provided at at least one of the  
15 tightening ring and the introducing tube, the  
engagement means engaging the introducing tube with the  
tightening ring when the clip and tightening ring  
protrudes in front of the introducing tube, and  
disabling the tightening ring from being housed again  
20 in the introducing tube.

2. An apparatus according to claim 1, wherein  
said engagement means is provided at said tightening  
ring.

3. An apparatus according to claim 1, wherein  
25 said engagement means is provided at said introducing  
tube.

4. An apparatus according to claim 2, wherein

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said engagement means is a protrusion that is protruded in a radial direction of the tightening ring when said tightening ring is protruded frontally of the introducing tube, and is engaged with said introducing tube.

5           5. An apparatus according to claim 1, wherein said introducing tube comprises a member having flexibility capable of being introduced into a body cavity via a soft endoscope.

10           6. An apparatus according to claim 1, wherein said manipulating member comprises a wire having flexibility capable of being introduced into a body cavity via a soft endoscope.

15           7. An apparatus according to claim 1, comprising an auxiliary case for, while said link member is further engaged with said clip, and said tightening ring is engagingly mounted on said link member, sealing these clip, tightening ring, and link member, and enabling housing the tightening ring in the introducing tube.

20           8. An apparatus according to claim 7, wherein diameter reducing means for reducing said engagement means to a diameter capable of being housed in said introducing tube is provided at said auxiliary case.

25           9. A physiological tissue clipping apparatus comprising:

          a clip capable of being arbitrarily opened/closed;

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a tightening ring engagingly mounted on the clip,  
thereby closing the clip;

a link member capable of being inserted into the  
tightening ring and engaged with the clip;

5 an introducing tube capable of mounting the clip  
and the tightening ring at a distal end thereof;

a manipulating member retractably routed into the  
introducing tube; and

10 a cover provided on the clip capable of entering  
an opened state required to ligate a physiological  
tissue from a closed state capable of being inserted  
into an endoscope.

15 10. An apparatus according to claim 9, wherein  
said cover is retracted to a proximal end side, whereby  
said clip is released from the cover, and is  
established in an opened state.

20 11. An apparatus according to claim 9, wherein  
said cover advances to its distal end side, and slips  
out of said clip, whereby said clip is released from  
the cover, and is established in an opened state.

12. An apparatus according to claim 9, wherein  
said cover is broken, whereby said clip is released  
from the cover, and is established in an opened state.

25 13. An apparatus according to claim 9, wherein  
said cover is opened, whereby said clip is released  
from the cover, and is established in an opened state.

14. An apparatus according to claim 9, wherein

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said cover is dissolved, whereby said clip is released from the cover, and is established in an opened state.

5 15. An apparatus according to claim 9, wherein said introducing tube comprises a member having flexibility capable of being introduced into a body cavity via a soft endoscope.

10 16. An apparatus according to claim 9, wherein said manipulating member comprises a wire having flexibility capable of being introduced into a body cavity via a soft endoscope.

17. A physiological tissue clipping apparatus comprising:

15 a clip capable of being arbitrarily opened/closed;  
a tightening ring engagingly mounted on the clip,  
thereby closing the clip;

a link member capable of being inserted into the tightening ring and engaged with the clip; and

20 a manipulating wire having a hook at a distal end thereof, wherein, when the link member is set at an arbitrary circumferential position relevant to an axial direction of the hook, at least one of the link member and the hook is deformed and restored, whereby the link member and the hook are engaged with each other.

25 18. An apparatus according to claim 17, wherein said deformation means is provided at said hook.

19. An apparatus according to claim 17, wherein said deformation means is provided at said link member.

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20. An apparatus according to claim 17, wherein said deformation means are provided at said link member and the hook.

5 21. An apparatus according to claim 17, wherein an arm section having closing properties and a pinch section for pinching and fixing a proximal end part of said link member are provided at said hook.

10 22. An apparatus according to claim 17, wherein an arm section having closing properties and a pinch section for pinching and fixing a distal end part of said hook are provided at said link member.

15 23. An apparatus according to claim 17, wherein an internal cavity whose distal end side is small in diameter is provided at said hook, and a proximal end part whose outer diameter can be expanded/reduced is provided at said link member so that said hook and the link member can be engagingly fixed to each other.

20 24. An apparatus according to claim 17, wherein an internal cavity whose tip end side is small in diameter is provided at said link member, and a tip end part whose outer diameter can be expanded/reduced is provided at said hook so that said hook and the link member can be engagingly fixed to each other.

25 25. An apparatus according to claim 17, wherein said deformation means is an elastic member.

26. An apparatus according to claim 17, comprising an auxiliary case for, while said link member is

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further engaged with said clip, and said tightening ring is engagingly mounted on said link member, sealing these clip, tightening ring, and link member, and enabling engagement between said link member and said hook.

27. An apparatus according to claim 17, wherein said link member is a resin-based elastic member, and the hook provided at said manipulating member distal end is a metallic non-elastic member.

28. A physiological tissue clipping apparatus comprising:

a clip capable of being arbitrarily opened/closed;  
a tightening ring engagingly mounted on the clip, thereby closing the clip;

a link member capable of being inserted into the tightening ring and engaged with the clip; and

holding means for, when the clip is opened to the maximum, temporarily holding the opened state.

29. An apparatus according to claim 28, wherein said holding means is provided at said clip.

30. An apparatus according to claim 28, wherein said holding means is provided at said tightening ring.

31. An apparatus according to claim 28, wherein said holding means is provided at said link member.

32. An apparatus according to claim 28, wherein said holding means is a step that is provided at each of the arms of said clip, and is engaged to each other.

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33. An apparatus according to claim 28, wherein said holding means is a step that is provided at each of the arms of said clip, and is engaged with said tightening ring.

5 34. A physiological tissue clip comprising:

a clip capable of being arbitrarily opened/closed, the clip being made of super-elastic alloy;

a tightening ring engagingly mounted on the clip, thereby closing the clip; and

10 a link member capable of being inserted into the tightening ring and engaged with the clip.

35. An apparatus according to claim 34, wherein said clip is bent at its center portion, and an arm section having an opening width capable of ligating a physiological tissue is formed.

36. An apparatus according to claim 34, wherein an opening width of said clip ranges from 3 mm to 25 mm, and a length of an arm section ranges from 2 to 20 mm.

20 37. An apparatus according to claim 34, wherein said clip can be elastically deformed/restored from a closed state capable of being housed in a forceps channel of an endoscope to an opened state capable of ligating a physiological tissue.

25 38. An apparatus according to claim 34, wherein said clip can be elastically deformed from a closed state capable of being housed in a tubular cavity of 3 mm or less in an inner diameter in a forceps channel

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of an endoscope to an opened state whose opening width ranges 3 mm to 25 mm capable of ligating a physiological tissue.

5        39. An apparatus according to claim 34, wherein said clip is composed of a planar super-elastic alloy.

40. A physiological tissue clip comprises an super-elastic alloy which is in a shape memory state having an opening width capable of ligating a physiological tissue formed.

10        41. An endoscope treatment device comprising:  
an introducing tube having flexibility capable of being introduced into a soft endoscope;

15        a manipulating member having flexibility, the manipulating member being retractably inserted into the introducing tube; and

20        positioning means having flexibility, the positioning means being provided on the manipulating member, thereby causing said manipulating member to be positioned at the axial center of said introducing tube.

22        42. An endoscope treatment device comprising:  
an introducing tube having flexibility capable of being introduced into a soft endoscope;

25        a manipulating member having flexibility, the manipulating member being retractably inserted into the introducing tube; and

a plurality of positioning means provided on said

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an introducing tube;

a manipulating member retractably inserted into the introducing tube;

5 a manipulating section main body mounted on said introducing tube;

a slider mounted on said manipulating member, the slider being manipulated to advance/retract the manipulating member relevant to said introducing tube;

10 an inclined face section having two inclined faces with their different angles provided at least in one of said manipulating section main body and said slider; and

15 an engagement section provided in at least one of said manipulating section main body and said slider, and moving said slider, thereby ensure engagement with said inclined face section.

46. An auxiliary case comprising:

20 a clip capable of being arbitrary opened/closed; a tightening ring engagingly mounted on the clip, thereby closing the clip;

a link member capable of being inserted into the tightening ring, and engaged with said clip; and

25 fixing means for, while said link member is engaged with said clip, and said tightening ring is engagingly mounted on said link member, sealing these clip, tightening ring, and link member and fixing an introducing tube of a clip manipulating device at

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a position capable of housing these clip, tightening ring, and link member.

5 47. An apparatus according to claim 46, wherein said fixing means is an arm capable of being elastically opened.

48. An apparatus according to claim 46, wherein said fixing means is a protrusion capable of being elastically opened.

10 49. An apparatus according to claim 46, wherein said fixing means is an arm with protrusion capable of being elastically opened.

50. An apparatus according to claim 46, wherein said fixing means is a soft resin ring.

15 51. An apparatus according to claim 46, wherein at least a part of said auxiliary case comprises a transparent or semitransparent material.

20 52. An auxiliary case comprising:  
a clip capable of being arbitrary opened/closed;  
a tightening ring engagingly mounted on the clip,  
thereby closing the clip;

a link member capable of being inserted into the tightening ring, and engaged with said clip; and

25 an inclined face section for, while said link member is engaged with said clip, and said tightening ring is engagingly mounted on said link member, sealing these clip, tightening ring, and said link member, and establishing said clip and the engaging means provided

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on said tightening ring at a closed state capable of being housed in an introducing tube of a clip manipulating device.

53. A physiological tissue clipping method comprising:

mounting a clip unit housed in a clip case on a clip manipulating device;

routing the clip manipulating device into a soft endoscope, thereby guiding the clip unit into a target site of a physiological tissue; and

manipulating the clip manipulating unit, thereby clipping the clip unit at the physiological tissue.

54. A physiological clipping method comprising:

connecting a clip unit housed in a clip case with a clip manipulating device, and manipulating the clip manipulating device, thereby mounting the clip unit on the clip manipulating device;

routing the clip manipulating device into a soft endoscope, thereby guiding the clip unit into a target site of a physiological tissue; and

manipulating the clip manipulating unit, thereby clipping the clip unit at the physiological tissue.

55. A clip unit mounting method comprising:

connecting a clip manipulating member to a clip unit housed in a clip case; and

mounting the clip unit housed in the clip case on a clip manipulating device.

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56. A clip unit mounting method comprising:

connecting a clip unit housed in a clip case with  
a sheath of a clip manipulating device having a clip  
manipulating member retractably inserted thereinto;

5        advancing the clip manipulating member, thereby  
linking the clip unit with the clip manipulating member  
in the clip case;

10        retracting the clip manipulating member, thereby  
guiding the clip unit housed in the clip case to the  
inside of the sheath; and

mounting the guided clip unit thereon.

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